

CLAIMS

We Claim:

1 1. A system for absorbing an impact energy, said system comprising:
2 first and second blow molded thermoplastic energy absorbing
3 members;
4 each said energy absorbing member having opposing first and
5 second walls defining a hollow space;
6 at least one pair of joined first and second ribs disposed within each
7 said energy absorbing member, said first rib being integrally
8 molded from said first wall, said second rib being integrally
9 molded from said second wall;
10 a joint disposed between said first and second ribs; and
11 wherein said first and second energy absorbing members are aligned
12 such that said impact energy is distributed between said
13 energy absorbing members and absorbed by said energy
14 absorbing members.

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1 2. The system according to claim 1, wherein said first energy
2 absorbing member and said second energy absorbing member have
3 different sizes.

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1 3. The system according to claim 1, wherein said first energy
2 absorbing member and said second energy absorbing member are aligned
3 such that at least one said pair of ribs from said first energy absorbing
4 member is aligned coaxially with at least one said pair of ribs from said
5 second energy absorbing member.

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1 4. The system according to claim 1, wherein said first energy
2 absorbing member and said second energy absorbing member are
3 interlocked with each other via a thin part.

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1 5. The system according to claim 1, wherein a projecting part is
2 disposed in said first wall of said first energy absorbing member, and a
3 receiving part for receiving said projecting part is disposed in the second
4 wall of said second energy absorbing member.

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1 6. The system according to claim 5, wherein the receiving part is a
2 recessed part.

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1 7. The system according to claim 5, wherein the receiving part is a
2 through hole.

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1 8. The system according to claim 1, wherein an interlocking piece is
2 disposed on at least one of said energy absorbing members in such a way
3 as to align said first and second energy absorbing members.

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1 9. The system according to claim 8, wherein a projecting part is
2 formed in said interlocking piece.

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1 10. The system according to claim 8, wherein a through hole is
2 formed in said interlocking piece.

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1 11. The system according to claim 8, wherein said interlocking
2 piece is formed integrally on a side surface of said energy absorbing
3 member via a thin part.

1 12. The system according to claim 8, wherein said interlocking
2 piece is formed in the vicinity of a parting line formed on a side surface
3 linking said first and second wall of said energy absorbing member.

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1 13. The system according to claim 8, wherein said interlocking
2 piece is pressed and formed by a parting surface of a split mold during
3 blow molding.

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1 14. The system according to claim 8, wherein a plurality of said
2 energy absorbing members are interlocked and fixed by fixing said
3 interlocking piece to an adjacent said energy absorbing member.

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1 15. The system according to claim 8, further comprising a stopping
2 member coupling said interlocking piece to an adjacent said energy
3 absorbing member.

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1 16. The system according to claim 8, wherein a plurality of said
2 energy absorbing members are interlocked and fixed by fitting said
3 interlocking piece to an adjacent said energy absorbing member.

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1 17. The system according to claim 8, wherein a plurality of said
2 energy absorbing members are interlocked and fixed integrally by welding
3 said interlocking piece to an adjacent said energy absorbing member.

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1 18. The system according to claim 8, wherein a plurality of the
2 energy absorbing members are interlocked and fixed by coupling a first
3 said interlocking piece from one said energy absorbing member to a
4 second said interlocking piece from an adjacent said energy absorbing
5 member.

1 19. The system according to claim 18, further comprising a stopping
2 member inserted through said first and second interlocking pieces.

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1 20. The system according to claim 18, wherein a plurality of said
2 interlocking pieces are snapped together.

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1 21. The system according to claim 18, wherein a plurality of said
2 interlocking pieces are welded together.

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1 22. The system according to claim 1, further comprising a stopping
2 member inserted through a plurality of said welded surfaces.

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1 23. The system according to claim 1 further comprising at least one
2 additional blow molded thermoplastic energy absorbing member, said
3 energy absorbing members are aligned such that said impact energy is
4 distributed between said energy absorbing members and absorbed by said
5 energy absorbing members.

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1 24. A system for absorbing an impact energy, said system
2 comprising:

3 first and second energy absorbing members, each said energy
4 absorbing member having opposing first and second walls
5 defining a hollow space;

6 at least one rib disposed within each said energy absorbing
7 member, said rib being integrally molded from at least said
8 first wall;

9 a joint whereby said rib attaches to said second wall; and

10 wherein said energy absorbing members are aligned such that at
11 least one said rib from each said energy absorbing member is
12 aligned and said impact energy is distributed between said

13 energy absorbing members and absorbed by said energy
14 absorbing members.

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1 25. The system according to claim 24, wherein each said energy
2 absorbing members has a different size.

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1 26. The system according to claim 24, wherein said first energy
2 absorbing member and said second energy absorbing member are aligned
3 such that at least one said rib from said first energy absorbing member is
4 aligned coaxially with at least one said rib from said second energy
5 absorbing member so as to be provided continuously in the direction of an
6 impact energy.

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1 27. The system according to claim 24, wherein said plurality of the
2 energy absorbing members are coupled via a thin part.

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1 28. The system according to claim 24, further comprising a
2 projecting part disposed in said first energy absorbing member, and a
3 receiving part disposed in said second energy absorbing member for
4 receiving said projecting part.

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1 29. The system according to claim 24, further comprising an
2 interlocking piece disposed on a side surface linking said first and second
3 walls of at least one of said energy absorbing members.

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1 30. The system according to claim 24, further comprising a stopping
2 member coupling said interlocking piece to an adjacent said energy
3 absorbing member.

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1 31. The system according to claim 24 further comprising at least
2 one additional blow molded thermoplastic energy absorbing member, said
3 energy absorbing members are aligned such that said impact energy is
4 distributed between said energy absorbing members and absorbed by said
5 energy absorbing members.
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